

Department of the Interior  
US Geological Survey

# **Landsat 7 Calibration Parameter File Release**

## **Version Description Document**

**Version 15.0**

**April 2003**



# Landsat 7 Calibration Parameter File Release

# Version Description Document

**31 March 2003**

Prepared By:

Scott Lee  
Calibration Analyst  
USGS EDC Landsat 7 DHF  
SAIC

Approved By:

Ron Hayes Date  
Landsat 7 Calibration/Validation Lead  
USGS EDC Landsat 7  
SAIC

Reviewed By:

Pat Scaramuzza	Date
Calibration Analyst	
USGS EDC Landsat 7 DHF	
SAIC	

USGS EROS Data Center  
Sioux Falls, South Dakota

## Executive Summary

---

The Version Description Document (VDD) is required by the Landsat Program Configuration Control Board for all software releases put into the operational environment. This VDD is the primary configuration control document used to track and control versions of Calibration Parameter files released to the operational environment. It is a summary of the features and contents of the CPF changes, and identifies and describes the version of the CPFs being delivered.

*Keywords: Version Description Document (VDD), Calibration Parameter File (CPF).*

## Table of Contents

<b>Executive Summary .....</b>	<b>iii</b>
<b>Section 1   Preface.....</b>	<b>1</b>
<b>Section 2   Overview.....</b>	<b>2</b>
<b>Section 3   Reason for CPF Issuance and Changes .....</b>	<b>2</b>
<b>Section 4   List of CPFs in Effect.....</b>	<b>3</b>
<b>Section 5   List of Changed Units.....</b>	<b>5</b>
5.1   New Groups or Fields to CPF File Structures .....	5
5.2   Deleted Groups or Fields in the CPF File Structures .....	5
5.3   Modifications to Existing CPF Values .....	5
<b>Section 6   Operational Changes to be Expected with New CPFs.....</b>	<b>8</b>

## **Section 1   Preface**

---

This Calibration Parameter File (CPF) Change Description Document is controlled by the Mission Management Office System Engineering (MMOSE) and the Landsat 7 Data Handling Facility (DHF) Change Control Board (L7 DCCB) and accompanies the release of CPFs for the 2<sup>nd</sup> Quarter of 2003.

Comments and questions regarding this document should be directed to:

Landsat 7 Image Assessment System  
Satellite Systems Branch  
USGS EROS Data Center  
Sioux Falls, SD 57198

## **Section 2   Overview**

---

This document details the Calibration Parameter Files (CPFs) released for the quarter beginning 01 April 2003 and the changes made to them.

## **Section 3   Reason for CPF Issuance and Changes**

---

This release is a routine quarterly release for the 2Q2003 CPF. The standard changes to the CPF attributes and the UT1 Parameters have been made to all CPFs.

## Section 4 List of CPFs in Effect

---

The following table shows the CPFs in effect for each time period since the Launch of Landsat 7, as well as the preceding CPFs.

Period Covered	1Q2003 CPF Name	2Q2003 CPF Name
1 April 2003 – 30 June 2003	N/A	L7CPF20030401_20030630.01
1 January 2003 – 31 March 2003	L7CPF20030101_20030331.01	L7CPF20030101_20030331.02
1 October – 31 December 2002	L7CPF20021001_20021231.02	L7CPF20021001_20021231.03
1 July – 30 September 2002	L7CPF20020701_20020930.03	L7CPF20020701_20020930.04
1 April – 30 June 2002	L7CPF20020401_20020630.03	L7CPF20020401_20020630.04
1 January – 31 March 2002	L7CPF20020101_20020331.04	L7CPF20020101_20020331.05
1 October – 31 December 2001	L7CPF20011001_20011231.05	L7CPF20011001_20011231.06
01 July 2001 – 30 September 2001	L7CPF20010701_20010930.05	L7CPF20010701_20010930.06
01 April 2001 – 30 June 2001	L7CPF20010401_20010630.06	L7CPF20010401_20010630.07
01 January 2001 – 31 March 2001	L7CPF20010101_20010331.07	L7CPF20010101_20010331.08
01 October – 31 December 2000	L7CPF20001001_20001231.08	L7CPF20001001_20001231.09
19 July – 30 September 2000	L7CPF20000719_20000930.10	L7CPF20000719_20000930.11
01 July – 18 July 2000	L7CPF20000701_20000718.09	L7CPF20000701_20000718.10
01 April – 30 June 2000	L7CPF20000401_20000630.09	L7CPF20000401_20000630.10
01 January – 31 March 2000	L7CPF20000101_20000331.11	L7CPF20000101_20000331.12
09 December – 31 December 1999	L7CPF19991209_19991231.12	L7CPF19991209_19991231.13
24 November – 08 December 1999	L7CPF19991124_19991208.12	L7CPF19991124_19991208.13
01 October – 23 November 1999	L7CPF19991001_19991123.12	L7CPF19991001_19991123.13
01 July – 30 September 1999	L7CPF19990701_19990930.15	L7CPF19990701_19990930.16

01 April – 30 June 1999	L7CPF19990401_19990630.18	L7CPF19990401_19990630.19
-------------------------	---------------------------	---------------------------



## **Section 5 List of Changed Units**

---

### **5.1 New Groups or Fields to CPF File Structures**

There were no changes to the CPF file structure with any of the CPFs released this quarter.

### **5.2 Deleted Groups or Fields in the CPF File Structures**

There were no deletions to the CPF file structure with any of the CPFs released this quarter.

### **5.3 Modifications to Existing CPF Values**

The following changes were made to those CPFs newly generated or modified this quarter:

#### **5.3.1 File: L7CPF20030401\_20030630.01**

This is the new CPF for the 2<sup>nd</sup> Quarter of 2003. The contents are based on the CPF file from 1Q2003 (File: L7CPF20030101\_20030331.01) with the following changes:

##### **5.3.1.1 GROUP=FILE\_ATTRIBUTES**

Routine changes to show new filename and effectivity dates.

##### **5.3.1.2 GROUP=BAND\_OFFSETS**

Band offset parameters have been refined based upon analysis from the IAS. BAND\_OFFSETS is the affected parameter.

##### **5.3.1.3 GROUP=MTF\_COMPENSATION**

MTF compensation coefficients have been refined based upon analysis from the IAS. MTF\_COMPENSATION is the affected parameter.

##### **5.3.1.4 GROUP=UT1\_TIME\_PARAMETERS**

UT1 parameters have been updated based on estimated values as computed at the Naval Observatory.

#### **5.3.2 File: L7CPF20030101\_20030331.02**

Changes made to the .01 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, MTF\_COMPENSATION, and UT1\_TIME\_PARAMETERS groups, as previously described.

#### **5.3.3 File: L7CPF20021001\_20021231.03**

Changes made to the .02 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, MTF\_COMPENSATION, and UT1\_TIME\_PARAMETERS groups, as previously described.

5.3.4 File: L7CPF20020701\_20020930.04

Changes made to the .03 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.5 File: L7CPF20020401\_20020630.04

Changes made to the .03 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.6 File: L7CPF20020101\_20020331.05

Changes made to the .04 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.7 File: L7CPF20011001\_20011231.06

Changes made to the .05 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.8 File: L7CPF20010701\_20010930.06

Changes made to the .05 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.9 File: L7CPF20010401\_20010630.07

Changes made to the .06 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.10 File: L7CPF20010101\_20010331.08

Changes made to the .07 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.11 File: L7CPF20001001\_20001231.09

Changes made to the .08 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.12 File: L7CPF20000719\_20000930.11

Changes made to the .10 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.13 File: L7CPF20000701\_20000718.10

Changes made to the .09 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.14 File: L7CPF20000401\_20000630.10

Changes made to the .09 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.15 File: L7CPF20000101\_20000331.12

Changes made to the .11 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.16 File: L7CPF19991209\_19991231.13

Changes made to the .12 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.17 File: L7CPF19991124\_19991208.13

Changes made to the .12 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.18 File: L7CPF19991001\_19991123.13

Changes made to the .12 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.19 File: L7CPF19990701\_19990930.16

Changes made to the .15 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

5.3.20 File: L7CPF19990401\_19990630.19

Changes made to the .18 version of this CPF include the FILE\_ATTRIBUTES, BAND\_OFFSETS, and MTF\_COMPENSATION groups, as previously described.

## **Section 6    Operational Changes to be Expected with New CPFs**

---

There are no major changes to operations or performance expected due to these CPFs. Band-to-band registration should be slightly improved due to the changes to the BAND\_OFFSETS parameters. The changes to the MTF\_COMPENSATION parameters will affect imagery resampled using the MTF Compensation method. The edge-enhancement feature of the MTFC kernel boosts noise in a non-uniform way, occasionally creating grid-like patterns in the resampled imagery. The new coefficients reduce the non-uniform noise response of the kernel without severely compromising edge enhancement.